

CLAIMS

1. An optical recording medium comprising:

a disc-like shaped substrate including a center hole

5 formed therein and an information recording face at least on one side; and

a light transmitting layer formed on the information recording face so as to be thinner than the substrate, the light transmitting layer including a center hole at a larger
10 inner diameter than that of the center hole formed in the substrate.

2. The optical recording medium according to claim 1,

wherein

15 an annular protrusion projecting in a thickness direction is formed around the center hole in the substrate, and the center hole having a larger inner diameter than an outer diameter of the annular protrusion is formed in the light transmitting layer.

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3. The optical recording medium according to claim 2,

wherein

the amount of projection of the annular protrusion is approximately equal to a thickness of the light transmitting

25 layer.

4. The optical recording medium according to claim 2,
wherein

the amount of projection of the annular protrusion is
5 larger than a thickness of the light transmitting layer.

5. A method for manufacturing an optical recording medium,
comprising:

a molding step of molding a disc-like shaped substrate
10 including an information recording face at least on one side;

a light transmitting layer formation step of forming a
light transmitting layer thinner than the substrate on the
information recording face;

a cutting step of forming a circular cut in the light
15 transmitting layer; and

a punching step of punching out at least a part of an
area inside the cut by a punching tool to form center holes in
the light transmitting layer and the substrate.

20 6. The method for manufacturing an optical recording
medium according to claim 5, wherein

the cut in the light transmitting layer is formed at a
larger diameter than an inner diameter of the center hole in
the substrate, and the area inside the cut is pressurized in a
25 thickness direction by the punching tool to divide the light

transmitting layer at the cut and to punch the light transmitting layer and the substrate, thereby forming the center hole at a larger inner diameter than that of the center hole in the substrate in the light transmitting layer.

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7. The method for manufacturing an optical recording medium according to claim 6, wherein

a circular protrusion at a larger outer diameter than the inner diameter of the center hole in the substrate is formed on the information recording face at the molding step, the cut is formed in the light transmitting layer along an outer side of an outer circumference of the circular protrusion, and the substrate is punched by the punching tool to leave an outer periphery of the circular protrusion to form an annular protrusion around the center hole in the substrate as well as to form the center hole having a larger inner diameter than an outer diameter of the annular protrusion in the light transmitting layer.

20 8. The method for manufacturing an optical recording medium according to claim 5, wherein

a resin having fluidity is supplied to the vicinity of a center of the substrate while the substrate is rotated to allow the resin to flow outward in a radial direction by centrifugal force for spread, thereby forming the light

transmitting layer at the light transmitting layer formation step.

9. The method for manufacturing an optical recording

5 medium according to claim 6, wherein

a resin having fluidity is supplied to the vicinity of a center of the substrate while the substrate is rotated to allow the resin to flow outward in a radial direction by centrifugal force for spread, thereby forming the light
10 transmitting layer at the light transmitting layer formation step.

10. The method for manufacturing an optical recording medium according to claim 7, wherein

15 a resin having fluidity is supplied to the vicinity of a center of the substrate while the substrate is rotated to allow the resin to flow outward in a radial direction by centrifugal force for spread, thereby forming the light
transmitting layer at the light transmitting layer formation
20 step.

11. The method for manufacturing an optical recording medium according to claim 8, wherein

the light transmitting layer is made of a radiation
25 curable resin, a radiation ray is radiated so that the light

transmitting layer is semi-cured at the light transmitting layer formation step, and a reirradiation step of radiating a radiation ray again to the semi-cured light transmitting layer so as to completely cure the light transmitting layer is

5 provided after the cutting step.

12. The method for manufacturing an optical recording medium according to claim 9, wherein

the light transmitting layer is made of a radiation
10 curable resin, a radiation ray is radiated so that the light transmitting layer is semi-cured at the light transmitting layer formation step, and a reirradiation step of radiating a radiation ray again to the semi-cured light transmitting layer so as to completely cure the light transmitting layer is
15 provided after the cutting step.

13. The method for manufacturing an optical recording medium according to claim 10, wherein

the light transmitting layer is made of a radiation
20 curable resin, a radiation ray is radiated so that the light transmitting layer is semi-cured at the light transmitting layer formation step, and a reirradiation step of radiating a radiation ray again to the semi-cured light transmitting layer so as to completely cure the light transmitting layer is
25 provided after the cutting step.

14. A manufacturing device of an optical recording medium,
comprising:

cutting device for forming a circular cut in a light
5 transmitting layer of a semifinished product of an optical
recording medium, the optical recording medium including a
disc-like shaped substrate having an information recording
face at least on one side and the light transmitting layer
thinner than the substrate on the information recording face;
10 and

punching device for punching out at least a part of an
area inside the cut by a punching tool to form center holes in
the light transmitting layer and the substrate.